

American Burying Beetle

Nicrophorus americanus

Guidelines for Landowners Using Conservation Practices

Missouri Department of
Conservation

Common name ▪ American Burying Beetle
Scientific name ▪ *Nicrophorus americanus*
State status ▪ Endangered
Federal status ▪ Endangered

Ecology

The American burying beetle is the largest member of the family Silphidae in North America. Collection records indicate that the beetles were apparently widely distributed in Missouri outside of the Ozarks. The last Missouri specimens of the American burying beetle were found in the southwestern portion of the state, in the 1970's and 1980's. American burying beetles are habitat generalists, using a variety of habitat types from native grasslands and pastures to shrubby old fields and open forests. The beetles forage as adults on all types of dead and decaying animals (carrion). Adults are primarily nocturnal and are not active until temperatures reach 60 degrees Fahrenheit. The beetles can detect carrion with special sensors on their antennae at very long distances, and are presumably capable of flying several miles to find food or mates. Reproduction occurs from late April through August, exclusively on carrion "packages" of a particular size, from 100-200 grams, approximately the size of an adult quail. The beetle pair bury the carrion in an excavated nesting chamber, strip it of fur, feathers, etc., and embalm it with oral and anal secretions to retard decay. The female lays her eggs in the soil around the nest chamber and both adults carry the newly-eclosed larvae to the carrion. The young are fed regurgitated material by the adults at first; later

larval stages feed on their own at the buried carrion supply. Approximately two weeks after emerging from the egg, larvae leave the carrion to pupate in the surrounding soil. The "new" adults emerge from the pupae 45-60 days later. The original adult pair leaves the nesting chamber prior to larval pupation. American burying beetles probably spend the winter in the adult stage underground in hibernacula.



Reasons for Decline

No one factor has been identified as the primary cause for the disappearance of American burying beetle populations. However, researchers point to many possible factors, including habitat loss due to farming and land development, insecticides, habitat fragmentation, soil disturbance, and increased competition for carrion from vertebrate scavengers.

Recommendations

Protection of existing known populations is very important for the survival of this species. Promote land management activities that restore native grassland and open woodlands.

Consider the balance between adverse and beneficial practices when determining the overall effect of a conservation practice.

Beneficial Practices

- Managing and restoring prairies, savannas, and woodlands, converting fescue pasture to prairie or old field, and minimizing or eliminating soil

disturbance, may be beneficial to American burying beetles populations.

- Burning fields, including patch-burn grazing, if needed to control heavy litter accumulation or brush invasion on a three-five year interval rotation; burning should be done prior to March 15 or after July 15. Avoid impacting greater than 75% of the practice acres annually.
- For a prescribed grazing system to benefit this species, grasslands should be managed for greater plant diversity and heterogeneous stands of vegetation.

Adverse Practices

- Use of insecticides in areas inhabited by American burying beetles.
- Establishing invasive vegetation, such as tall fescue, sericea lespedeza or smooth brome, where it could spread into the native plant community inhabited by this species.
- Unmanaged grazing of livestock.

Consider the balance between adverse and beneficial practices when determining the overall effect of a conservation practice.

Information Contacts

For further information regarding regulations for development in wetlands, rivers and streams, contact:

Missouri Department of Conservation
Policy Coordination Section
P.O. Box 180
2901 W. Truman Blvd
Jefferson City, MO 65102-0180
Telephone: 573-751-4115

<http://www.mdc.mo.gov/nathis/endangered/>

U.S. Fish and Wildlife Service
Ecological Services Field Office
101 Park DeVille Dr., Suite A
Columbia, MO 65203
Telephone: 573-234-2132

<http://www.fws.gov/midwest/partners/missouri.html>

Legal

These guidelines were prepared by the Missouri Department of Conservation with assistance from other state agencies, contractors, and others to provide guidance to those people who wish to voluntarily act to protect wildlife and habitat.

Compliance with Best Management Practices is not required by the Missouri wildlife and forestry law nor by any regulation of the Missouri Conservation Commission. Other federal, state or local laws may affect construction practices.

“State Endangered Status” is determined by the Missouri Conservation Commission under constitutional authority, and specific requirements for impacts to such species are expressed in the Missouri Wildlife Code, rule 3CSR10-4.111.

Species listed under the Federal Endangered Species Act must be considered in projects receiving federal funds or requiring permits under the Clean Water Act, with compliance issues resolved in consultation with the U.S. Fish and Wildlife Service.